

REMARKS/ARGUMENTS

Claims 1-8 remain active in this application.

The claimed invention is directed to a hair shampoo composition.

Applicants wish to thank examiner Del Cotto for the helpful and courteous discussion held with their U.S. representative on October 12, 2006. At that time, applicants U.S. representative argued the unexpectedly improved foaming speed when the polyoxyethylene alkyl ether sulfate distribution is as claimed. The following is intended to expand upon the discussion with the examiner.

Hair shampoo detergent compositions containing alkyl ether sulfates have been used based on their pleasant feeling upon cleansing but can suffer from inferior foaming speed relative to alkyl sulfates of which they are an improvement thereof. Shampoo compositions which foam quickly yet have a pleasant feeling as well as have a conditioning effect on hair are sought.

The claimed invention addresses the problem by providing a hair shampoo composition comprising an amphipathic amide lipid and an ethylene oxide ether sulfate having a specified distribution of ethylene oxide units. Applicants have discovered that when the ethylene oxide ether sulfate has at least 70 wt.% or greater of sulfates where $a=0-2$, that the composition provides good shampoo performance in terms of foaming speed. Such a hair shampoo composition is nowhere disclosed or suggested in the cited prior art.

The rejections of claims 1-7 under 35 U.S.C. § 103(a) over Sakai et al. (U.S. 2006/0036046) or Sakai et al. (U.S. 2004/0156815) and of claims 1-6 under 35 U.S.C. § 103(a) over WO 97/35548 in view of EP 1,166,766 are respectfully traversed.

None of the cited prior art of record discloses or suggests a composition containing ethylene oxide ether sulfates having at least 70 wt.% of sulfates where $a=0-2$.

Each of the references identified by the examiner as teaching the claimed sulfate surfactant fails to disclose a sulfate composition having at least 70 wt.% of the sulfates where $a=0-2$ nor the specified amounts of sulfate where $a=0$, $a=1$ and $a=2$.

Each of the Sakai et al. references describes an anionic surfactant **generically**, preferring polyoxyethylene alkyl ether sulfates and alkyl sulfates of the formulas (B1) and (B2). For the polyoxyethylene alkylene ether sulfate, the degree of ethyleneoxide oxylation is indicated as ranging from 1-5. There is no disclosure or suggestion of an amount of at least 70 wt.% of sulfates where $a=0-2$ nor the specific amounts of alkyl sulfates where $a=0$, $a=1$ and $a=2$. Thus, at best, the Sakai et al references are a generic disclosure to include an alkyl ether sulfate.

WO '548 at page 6, lines 4-5 merely describes an alkyl ether sulfate where the number of ethylene oxide units range from 1-8. This reference fails to suggest an amount of at least 70 wt.% of sulfate where $a=0-2$ nor quantify the amounts as claimed of sulfate where $a=0$, $a=1$ and $a=2$.

In contrast, the claimed invention is directed to a hair shampoo composition in which a sulfate surfactant comprises 30-45 wt.% of sulfate where $a=0$, 17-27 wt.% of sulfate where $a=1$ and 10-20 wt.% of sulfate where $a=2$, the balance of sulfates are where $a=3$ or greater, and an amount of at least 70 wt.% of alkyl sulfates exhibiting $a=0-2$. As there is no suggestion in the reference to suggest an amount of at least 70 wt.% of sulfates where $a=0-2$ nor the specifically quantified amounts of sulfates where $a=0$, $a=1$ and $a=2$, the claimed invention is clearly not rendered obvious from the disclosures of these references. How can it be obvious to select an amount of sulfate where $a=0-2$ of at least 70 wt. % and comprises 30-45 wt.% of sulfate where $a=0$, 17-27 wt.% of sulfate where $a=1$ and 10-20 wt.% of sulfate where $a=2$, when the reference provides no suggestion of any importance to the distribution and degree of ethyleneoxide oxylation? It clearly would not have been obvious to have

selected such a distribution and degree of ethoxylation and accordingly withdrawal of the rejections under 35 U.S.C. §103(a) is respectfully requested.

Moreover, applicants observe an unexpected improvement in foaming speed when the composition of the sulfate surfactant is as claimed. The examiner's attention is directed to the data appearing in Table 2 on page 29 of the specification. The data compares the foaming speed of compositions containing both an amphipathic amide lipid and a sulfate as claimed as compared with a sulfate which has less than 70 wt.% of alkyl sulfate as claimed nor the claimed distribution of sulfate where a=0, a=1 and a=2. For the Examiner's convenience, Table 2 in the specification is reproduced below.

Table 2

(wt.%)

		Examples			Comparative Examples		
		1	2	3	1	2	3
(A)	Amphipathic amide lipid A	2	2	-	-	2	2
	Amphipathic amide lipid B	-	-	2	-	-	-
(B)	Sulfate 1	10	-	10	10	-	-
	Sulfate 2	-	10	-	-	-	-
	Comparative sulfate 1	-	-	-	-	10	-
	Comparative sulfate 2	-	-	-	-	-	10
Others	Dimethylpolysiloxane emulsion *1	2	2	2	2	2	2
	Myristyl alcohol	1	1	1	1	1	1
	Cocoylmonoethanolamide	0.5	0.5	0.5	0.5	0.5	0.5
	Ethylene glycol distearyl ester	1	1	1	1	1	1
	Cationic hydroxyethylcellulose	0.3	0.3	0.3	0.3	0.3	0.3
	Cationic guar gum	0.5	0.5	0.5	0.5	0.5	0.5
	Malic acid	1	1	1	1	1	1
	50 wt.% NaOH aq. soln/50 wt.% citric acid	q.s.*2	q.s.*2	q.s.*2	q.s.*2	q.s.*2	q.s.*2
	Purified water	Bal- ance	Bal- ance	Bal- ance	Bal- ance	Bal- ance	Bal- ance
pH		3.5	3.5	3.5	3.5	3.5	3.5
Buffering capacity (NgOH-gram equivalent/L)		0.01	0.01	0.01	0.01	0.01	0.01
Evalu- -ation	Foaming speed	A	A	A	C	C	C
	Lubricated feeling of foam	18	20	20	9	15	7
	Gloss and manageability	19	20	15	6	18	18
	Resilience and strength of hair	20	19	17	9	11	12

*1: "CF-2460" (trade name; product of Dow Corning Toray Silicone, a 75 wt.% emulsion, average particle size: about 100 μ m)

*2: Amount enough for pH adjustment

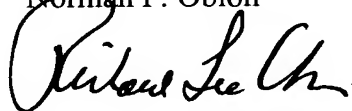
Comparative sulfate 1 and comparative sulfate 2 have a total amount of sulfate surfactant where a=0-2 of 67.86 and 51.99, far below the claimed amount of at least 70 wt.%. The foaming speed of these compositions were evaluated to occur from 200 to less than 300 seconds.

In contrast, Examples 1 and 2 containing the same amphipathic amide lipid but sulfates 1 and 2, sulfates having 77.73 and 72.29 wt.% of sulfate surfactant where a=0-2, exhibited foaming speeds **less than 100 seconds**. Thus, Applicants have demonstrated an improved rate of foaming by selection of an alkyl sulfate distribution as claimed. As there is no suggestion of such an improvement in foaming speed by selection of the alkyl sulfate composition, the claimed invention is clearly not obvious from these references and accordingly withdrawal of the rejections under 35 U.S.C. § 103(a) is respectfully requested.

Applicants submit this application is now in condition for allowance and early notification of such action is earnestly solicited.

Respectfully submitted,

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